

Attorney Docket No. P64765US1  
Application No. 09/779,461

**Amendments to the Abstract:**

Replace the Abstract with the Abstract submitted, herewith, on a separate page, as required in objection to the abstract set forth in the instant Office Action.

Application No. 09/779,461  
Attorney Docket No. P64765US1

### ABSTRACT

A method for distinguishing samples having fluorescent particles includes (a) monitoring intensity fluctuations of fluorescence emitted by the particles in at least one measurement volume by detecting sequences of photon counts by at least one photon detector, (b) determining, from the sequences of photon counts, intermediate statistical data involving at least two probability functions of the number of photon counts detected in different sets of counting time intervals, and (c) determining from the intermediate statistical data a distribution of particles as a function of at least two arguments, wherein one argument is a specific brightness of the particles, or a measure thereof, and another argument is a diffusion coefficient of the particles, or a measure thereof.

BEST AVAILABLE COPY